



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Water Resources
Knoxville Environmental Field Office
3711 Middlebrook Pike
Knoxville, Tennessee 37921

December 23, 2016

Certified Mail
7013 3020 0001 2241 5018

The Honorable H.E. Richardson
Mayor, City of Maynardville
P.O. Box 217
Maynardville, Tennessee 37807

RE: Compliance Evaluation Inspection
Maynardville Water Treatment Plant
NPDES Permit # TN0081736 - Lay Springs
NPDES Permit# TN0081744 – Davis Springs
Union County

Dear Mayor Richardson:

On December 6 and 7, 2016, Division of Water Resources personnel conducted a Compliance Evaluation Inspection regarding the filter backwash discharge at Maynardville Water Department's Lay Springs and Davis Springs water treatment plants (WTP). Maynardville Water Department's approval to discharge filter backwash water falls under the National Pollution Discharge Elimination System (NPDES) permit # TN0081736 for Lay Springs and TN0081744 for Davis Springs. This is the first inspection of the filter backwash discharge permit since the water system applied for a Notice of Coverage in June 2015. The Division would like to thank Mr. Jim Warwick and Mr. Ethan Mike for their cooperation on the days of the inspection and for providing information on both water treatment plant filter backwash discharge processes.

Permit

A copy of the water system's 2015 to 2020 NPDES permits were on file and available for review. These permits expire on August 19, 2020 and requires Maynardville to grab sample once a month and analyze for total suspended solids, pH, aluminum, iron, settleable solids and total chlorine residual during times of discharge to an unnamed tributary of Woods Gap Branch (Hamilton Gap Creek) at Lay Springs and to Raccoon Creek at Davis Springs.

Instantaneous flows are also required to be reported. These flows are based on the amount of backwash water sent to the lagoons since the water treatment plants do not meter the discharge point.

Records / Reports

Division staff reviewed the operational reports during the inspection period from September 2015 to November 2016. During the inspection period, the Lay Springs WTP incurred an exceedance of Total Chlorine Residual in November 2015 and an Aluminum exceedance in September 2015. For the Davis Springs WTP, the Total Chlorine Residual permit limit was exceeded in December 2015 and January 2016. No other exceedances have occurred at either plant during the 2015 – 2016 inspection period.

All Discharge Monitoring Reports (DMRs) have been received within fifteen days of the reporting period ending with the exception of December 2015. By the end of 2016, all wastewater systems that are required to submit a DMR will begin submitting the report electronically using netDMR. Maynardville is to be commended for already utilizing netDMR reporting for the Lay Springs water treatment plant, which began with the November 2016 DMR submittal. At this time, Davis Springs WTP has not been added, but Maynardville staff are currently working with the Division to add it to netDMR. Paper copies of the DMR will no longer be required to be submitted to the Division with netDMR.

Effluent / Receiving Waters

Backwash water from Maynardville's Lay Springs water treatment plant is sent to one earthen basin where the water is allowed to settle, before it discharges through a concrete weir box to an unnamed tributary of Woods Gap Branch. The backwash lagoon appeared to be in good condition and fit for its intended purpose. Division staff did not observe any indication that the backwash lagoon had overflowed or any unauthorized discharges had occurred at the designated outfall.

Filter backwash water for the Davis Springs WTP is sent to a concrete basin where it is allowed to settle before being discharged to Raccoon Creek. No issues were noted with the concrete basin on the day of the inspections.

During the inspection, Division staff did note that the water system lacked a posted sign in accordance with permit requirements. A copy of the general filter backwash permit was provided to water system personnel during the survey. A sign in accordance with the filter backwash permit must be posted within **30 days** at or near each discharge outfall.

Sludge Handling

Historically, when Maynardville has removed sludge from the backwash basin, the water treatment by-product has been land applied on nearby property. The water system can send the by-product to a landfill or can apply to the Division for land application of the by-product. The water system will need to show the land application is for beneficial reuse and have the proposed

application site inspected. Until the current site has been reviewed by the Division any future application of the water treatment by-product must cease.

In a Memorandum of Agreement between the Division of Water Resources and the Division of Solid Waste Management, water treatment plant by-product can be used for beneficial purposes on cropland or grassland to avoid taking it to a landfill if the Division of Water Resources concurs that the application is for beneficial purposes. A copy of the Standard Operating Procedures developed by the Division of Water Resources in 1999 regarding beneficial application of water treatment by-product is attached. Any uses of the sludge outside of land application for cropland or hauling to a landfill will need to be approved through the Division of Solid Waste Management.

Laboratory and Self-Monitoring Program

Analysis of the filter backwash discharge is analyzed at Maynardville's wastewater treatment plant and through a commercial laboratory. Analysis results were reviewed during the on-site inspection. Although no analysis is conducted on-site at the water treatment plant, the Division would like to remind the water system of the Standard Method Update Rule requirements. Information on the Standard Method Update Rule is attached, but in general, pH meters and total chlorine colorimeters will need to be calibrated or verified each day that a backwash filter discharge sample is analyzed. These calibrations and verifications must be documented. Due to holding time requirements, some of the analysis may need to be conducted on-site.

Conclusion

Based on the file review and on-site inspection, Maynardville is providing adequate treatment of the filter backwash water at both Lay Springs WTP and Davis Springs WTP. The Division would once again like to thank the Maynardville public works staff for their cooperation during the on-site inspection and their efforts in complying with permit requirements. If you have any further questions or comments regarding the Compliance Evaluation Inspection, please do not hesitate to contact me at (865) 594-5564.

Sincerely,



Erich Webber
Division of Water Resources
Knoxville Environmental Field Office

cc: Mr. Jack Rhyne, City Manager, City of Maynardville
Mr. Michael Payne, Certified Operator in Direct Charge, Maynardville Water Department
Mr. Jim Warwick, Certified Operator, Maynardville Water Department



TDEC - Division of Water Resources
Knoxville Field Office

ICIS NPDES Facilities Inspection Report

Facility Data

NPDES ID:	TN0081744	Facility Site Name	Maynardville Water Department-Davis Springs WTP		
		Address	454 Raccoon Valley Road, Maynardville, TN		
Permit Eff. Date:	Sep 3, 2015	Permit Exp Date:	Aug 19, 2020	SIC Code:	4952

Compliance Monitoring Information

Compliance Monitoring Activity Name	Compliance Evaluation (non-sampling) (CEI)				
	* If Bio Monitoring is selected above, select the method used:				
Compliance Monitoring Activity	Evaluation				

Compliance Monitoring Dates/Times

Entry Date/Time (mm/dd/yyyy hh:mm):	12/06/2016 9:30	Exit Date/Time (mm/dd/yyyy hh:mm):	12/07/2016 16:30
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Facility Representatives

Jim Warwick, Certified Operator, (865) 992-3821	Jack Rhyne, City Manager, (865) 992-3821
On-Site Representative(s) Title, Phone Number	Responsible Official(s), Title, Phone Number

Statute and Section Information

Federal Statute:	CWA - Clean Water Act	State Statute:	Tennessee Water Quality Control Act
Programs:	NPDES- Base Program (Limits, Reporting, & Schedule)		

Compliance Monitoring Reason: Core Program

Compliance Monitoring Agency Type:	State	Agency Name:	TDEC - DWR
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Did EPA assist/ Inspection?	No	Time Physically conducting activity: Days:	1	Hours:	
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Inspection Type:	State	Compliance Monitoring Action Outcome:	Under Review
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Lead Agency:	State	Compliance Monitoring Rating Code:	Satisfactory
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If Joint Inspection, what was the purpose of the other party?	
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Areas Evaluated During Inspection (Check only those areas evaluated)

<input checked="" type="checkbox"/> Permit	<input type="checkbox"/> Self - Compliance Program	<input type="checkbox"/> Pretreatment
<input checked="" type="checkbox"/> Records / Records	<input type="checkbox"/> Compliance Schedule	<input type="checkbox"/> Pollution Prevention
<input checked="" type="checkbox"/> Facility Site Review	<input type="checkbox"/> Laboratory	<input type="checkbox"/> Storm Water
<input checked="" type="checkbox"/> Effluent / Receiving Waters	<input type="checkbox"/> Operations & Maintenance	<input type="checkbox"/> Combined Sewer Overflow
<input type="checkbox"/> Flow Measurement	<input checked="" type="checkbox"/> Sludge Handling / Disposal	<input type="checkbox"/> Sanitary Sewer Overflow

Compliance Monitoring Summary

Need to post sign, exceedances of total residual chlorine

EPA and State Representatives

Erich Webber	TDEC / Knoxville EFO / 865-594-5564	Dec 22, 2016
Inspector's Signature	Agency / Office / Phone	Date
Robert Ramsey	TDEC / Knoxville EFO / 865-594-5515	12/23/16
Manager's Signature	Agency / Office / Phone	Date

(Note: This form can only be printed to an XPS document, then saved for later use.)